

What is claimed is:

1. A method of cementing in a subterranean formation, comprising the steps of:
providing a cement composition comprising water, a cement, a set retarder, and a gelation prevention agent, the gelation prevention agent comprising a salt and a calcium sequestering agent;
permitting the cement composition to remain in a slurry state for at least twenty-four hours;
activating the cement composition;
placing the cement composition in a subterranean formation; and
permitting the cement composition to set therein.
2. The method of claim 1 wherein the cement composition is permitted to remain in a slurry state for at least forty-eight hours.
3. The method of claim 1 wherein the cement composition is permitted to remain in a slurry state for about two weeks.
4. The method of claim 1 wherein the cement composition is permitted to remain in a slurry state for more than two weeks.
5. The method of claim 1 wherein the water is fresh water, salt water, brine, sea water, or a mixture thereof.
6. The method of claim 5 wherein the water is present in the cement composition in an amount sufficient to form a pumpable slurry.
7. The method of claim 6 wherein the water is present in the cement composition in an amount in the range of from about 15% to about 150% by weight of the cement.
8. The method of claim 1 wherein the cement is a hydraulic cement selected from the group consisting of: a Portland cement, pozzolanic cement, gypsum cement, high alumina cement, silica cement and a high alkalinity cement.
9. The method of claim 1 wherein the cement comprises vitrified shale or blast furnace slag.
10. The method of claim 1 wherein the set retarder is selected from the group consisting of: phosphonic acid, a phosphonic acid derivative, and a borate compound.
11. The method of claim 1 wherein the borate compound comprises sodium tetraborate or potassium pentaborate.

12. The method of claim 1 wherein the set retarder is present in the cement composition in an amount in the range of from about 0.1% to about 10% by weight of the cement.

13. The method of claim 1 wherein the cement composition further comprises a surfactant, a dispersant, mica, fibers, a bactericide, a formation conditioning agent, a fixed-density weighting agent, fumed silica, bentonite, fly ash, a fluid loss control additive, an expanding additive, a defoamer, a viscosifier, hollow microspheres, or a mixture thereof.

14. The method of claim 1 wherein the salt is sodium chloride.

15. The method of claim 1 wherein the salt is present in the cement composition in an amount in the range of from about 1% to about 40% by weight of the water.

16. The method of claim 1 wherein the calcium sequestering agent is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.

17. The method of claim 1 wherein the calcium sequestering agent is a lignosulfonate or an organic acid.

18. The method of claim 1 wherein the calcium sequestering agent is a copolymer comprising one or more compounds selected from the group consisting of acrylamide methyl sulfonic acid, acrylic acid, maleic anhydride, and itaconic acid.

19. The method of claim 1 wherein the step of activating the cement composition comprises adding an activator to the cement composition.

20. The method of claim 19 wherein the activator is added to the cement composition in an amount in the range of from about 0.1% to about 8% by weight of the cement.

21. The method of claim 19 wherein the activator is an amine compound.

22. The method of claim 21 wherein the amine compound is triethanol amine, diethanol amine, or a mixture thereof.

23. The method of claim 19 wherein the activator is a salt of a material selected from the group consisting of: calcium, sodium, magnesium, and aluminum.

24. The method of claim 23 wherein the salt is calcium chloride, sodium chloride, sodium aluminate, magnesium chloride, or a mixture thereof.

25. The method of claim 19 wherein the activator is added to the cement composition while the cement composition is being placed into the subterranean formation.

26. The method of claim 25 wherein the activator is injected into the cement composition flow stream while the cement composition is being placed into the subterranean formation.

27. The method of claim 1 wherein the step of placing the cement composition in a subterranean formation comprises the step of using a dump bailer to place the cement composition in a desired location in the subterranean formation.

28. The method of claim 1 wherein the water is present in the cement composition in an amount in the range of from about 15% to about 150% by weight of the cement; wherein the set retarder is selected from the group consisting of: phosphonic acid, a phosphonic acid derivative, and a borate compound; wherein the set retarder is present in an amount in the range of from about 0.5% to about 4% by weight of the cement; wherein the gelation prevention agent comprises a salt and a calcium sequestering agent; wherein the calcium sequestering agent is present in the cement composition in an amount in the range of from about 0.1 % to about 5 % by weight of the cement; wherein the salt is present in the cement composition in an amount in the range of from about 1% to about 40% by weight of water; wherein the salt is sodium chloride; wherein the calcium sequestering agent is an acrylamide methyl sulfonic acid copolymer.

29. A method of preventing the onset of gelation in a cement composition, the cement composition comprising water, a cement, and a set retarder, comprising the step of adding a gelation prevention agent to the cement composition, the gelation prevention agent comprising a salt and a calcium sequestering agent.

30. The method of claim 29 further comprising the step of permitting the cement composition to remain in a slurry state for at least twenty-four hours.

31. The method of claim 29 further comprising the step of permitting the cement composition to remain in a slurry state for at least forty-eight hours.

32. The method of claim 29 further comprising the step of permitting the cement composition to remain in a slurry state for about two weeks.

33. The method of claim 29 further comprising the step of permitting the cement composition to remain in a slurry state for more than two weeks.

34. The method of claim 29 wherein the water is fresh water, salt water, brine, sea water, or a mixture thereof.

35. The method of claim 29 wherein the water is present in the cement composition in an amount sufficient to form a pumpable slurry.

36. The method of claim 35 wherein the water is present in the cement composition in an amount in the range of from about 15% to about 150% by weight of the cement.

37. The method of claim 29 wherein the cement is a hydraulic cement selected from the group consisting of: a Portland cement, pozzolanic cement, gypsum cement, high alumina cement, silica cement and a high alkalinity cement.

38. The method of claim 29 wherein the cement comprises vitrified shale or blast furnace slag.

39. The method of claim 29 wherein the set retarder is selected from the group consisting of: phosphonic acid, a phosphonic acid derivative, and a borate compound.

40. The method of claim 39 wherein the borate compound comprises sodium tetraborate or potassium pentaborate.

41. The method of claim 29 wherein the set retarder is present in the cement composition in an amount in the range of from about 0.1% to about 10% by weight of the cement.

42. The method of claim 29 wherein the cement composition further comprises a surfactant, a dispersant, mica, fibers, a bactericide, a formation conditioning agent, a fixed-density weighting agent, fumed silica, bentonite, fly ash, a fluid loss control additive, an expanding additive, a defoamer, a viscosifier, hollow microspheres, or a mixture thereof.

43. The method of claim 29 wherein the salt is sodium chloride.

44. The method of claim 29 wherein the salt is present in the cement composition in an amount in the range of from about 1% to about 40% by weight of the water.

45. The method of claim 29 wherein the calcium sequestering agent is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.

46. The method of claim 45 wherein the calcium sequestering agent is a lignosulfonate or an organic acid.

47. The method of claim 45 wherein the calcium sequestering agent is a copolymer comprising one or more compounds selected from the group consisting of acrylamide methyl sulfonic acid, acrylic acid, maleic anhydride, and itaconic acid.

48. The method of claim 29 wherein the water is present in the cement composition in an amount in the range of from about 15% to about 150% by weight of the cement; wherein the set retarder is selected from the group consisting of: phosphonic acid, a phosphonic acid derivative, and a borate compound; wherein the set retarder is present in the cement composition in an amount in the range of from about 0.5% to about 4% by weight of the cement; wherein the gelation prevention agent comprises a salt and a calcium sequestering agent; wherein the calcium sequestering agent is an acrylamide methyl sulfonic acid copolymer; wherein the salt is sodium chloride; wherein the salt is present in the cement composition in an amount in the range of from about 1% to about 40% by weight of the water; wherein the calcium sequestering agent is present in the cement composition in an amount in the range of from about 0.1% to about 5% by weight of the cement.